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EXAMINER
LIANG, REGINA

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/710,854	BURNS, DAVID W.	
	Examiner	Art Unit	
	Regina Liang	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to amendment filed 9/21/06. Claims 1-40 are currently pending in the application.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

3. Claim 32 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 32 depends from claim 31 but claim 32 fails to further limit the subject mater of claim 31.

Claim Rejections - 35 USC § 102

4. Claims 31, 32, 38, 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Omura et al (US. PAT. NO. 6,594,023 hereinafter Omura).

As to claims 31, 32, Omura discloses a system (Fig. 8 for example) for determining a stylus (65) in a stylus entry region (66), comprising: means for illuminating a stylus with a light source when the stylus tip is in the stylus entry region (LED 64 is a light source and is at the tip end of the stylus); means for generating an image of the stylus from a first direction with a single

telemetric imager (position detect part 62, CCD camera 63a generates an image of the stylus from a first direction); means for generating an image of the stylus tip from a second direction with the telemetric image (position detect part 62, CCD camera 63b generates an image of the stylus from a second direction) and means for determining the stylus position based on the generated images from the first direction and the second direction when the stylus tip is in the stylus entry region (col. 14, line 45 to col. 16, line 23 for example).

As to claim 38, Omura teaches sending the determined stylus position to a digital computing device (computer, see col. 16, lines 19-21).

As to claim 39, Omura teaches interpreting the determined stylus position (col. 16, lines 1-65).

Claim Rejections - 35 USC § 103

6. Claims 1, 2, 4, 6, 11-13, 15, 16, 18, 20, 21, 23, 26, 27, 29, 30, 35, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura in view of Ogawa (US 6,100,538).

As to claims 1, Omura discloses a system (Fig. 8 for example) for determining a stylus position of a stylus (65), comprising: a single telemetric imager (62) having an optical imaging array (infrared rays CCD cameras as optical units); and a controller (control part 68) electrically coupled to the telemetric imager (position detect part 62 in Fig. 8); wherein the controller determines the stylus position based on a generated image of a stylus tip from a first direction (from CCD camera 63a) and a generated image of the stylus tip from a second direction (from CCD camera 63b) when the stylus tip is in a stylus entry region (col. 14, line 45 to col. 16, line 23 for example).

Omura does not disclose a light source positioned near the telemetric imager to illuminate a stylus tip. However, Fig. 22 of Ogawa teaches a light source (31) positioned near the telemetric imager (detecting unit 3), wherein light emitted from the light source illuminates the stylus tip when the stylus tip is in the stylus entry region. Figs. 1, 2, 22 of Ogawa teaches a light source can be alternatively positioned in the stylus or near the imager (detecting unit). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Omura to have a light source positioned near the telemetric imager (position detect part) as taught by Ogawa since this enhances the illumination efficiency and prevents the undesired reflective light of the stylus caused by extraneous light from entering into the detecting units (col. 16, lines 24-27 of Ogawa).

As to claim 2, Omura teaches the stylus comprises a pen (65 in Fig. 8).

As to claim 4, Omura teaches the pen 65 has a tip end, when the camera imaging system detects the writing tip end touching on the inputting/detecting area 66, which reads on a writing-mode imaging target as claimed).

As to claim 6, Omura teaches the telemetric imager(62) comprises two CCD cameras (this corresponds to two optical imaging arrays).

As to claim 11, Fig. 22 of Ogawa teaches the light emitted from the light source illuminates the stylus tip when the stylus tip is in the stylus entry region.

As to claims 12, 13, Ogawa teaches the light source comprising LED (col. 10, lines 12-13).

As to claim 15, Fig. 23 of Ogawa teaches an optical filter (39) positioned between the telemetric imager and the stylus, and the optical filter preferentially passes light from the stylus tip to the telemetric image.

As to claim 16, Fig. 8 teaches a communication port (interface circuit 79) connected to the controller to enable communication between the controller and a digital computing device (computer, col. 16, lines 19-21).

As to claim 18, Omura teaches the telemetric imager (62) and the controller (68) are contained in a housing (col. 15, lines 46-48). Ogawa teaches the light source is positioned near the detecting unit (3), thus, Omura as modified by Ogawa would have the light source is coupled to the housing as claimed.

Claim 20 is a method claim corresponding to the above apparatus claim 1, is rejected for the same reasons as stated above since such method "steps" are clearly read on by the corresponding "means".

As to claim 21, Omura teaches the telemetric imager comprises two CCD cameras (two optical imaging arrays).

As to claims 23, Fig. 22 of Ogawa teaches illuminating the stylus tip with a light source (31) when the stylus tip is in the stylus entry region.

As to claim 29, Omura teaches sending the determined stylus position to a digital computing device (computer, see col. 16, lines 19-21).

As to claim 30, Omura teaches interpreting the determined stylus position (col. 16, lines 1-65).

As to claims 26, 27, 35, 36, Ogawa teaches determining angular information of the stylus (angle or rotation of the stylus) when the stylus tip in is the entry region (col. 7, lines 27-32).

7. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Omura in view of Tsuji (US 2001/0020936).

Omura does not disclose a writable medium in the stylus entry region comprising a sheet of paper. However, Figs. 1 and 2 of Tsuji teaches a stylus entry region comprising a sheet of paper (20) as a writable medium. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the writable medium of Omura to have a sheet of paper as taught by Tsuji since this allows the user to draw or write on the writable medium for inputting handwritten characters or diagrams to a computer or a printer such that both an electronic copy and a hardcopy is available as a record to the user at the same time.

8. Claims 3, 8-10, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura and Ogawa as applied to claims 1 and 20, and further in view of Tsuji.

Omura as modified by Ogawa does not disclose a writable medium in the stylus entry region comprising a sheet of paper. However, Figs. 1 and 2 of Tsuji teaches a stylus entry region comprising a sheet of paper (20) as a writable medium. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the writable medium of Omura as modified by Ogawa to have a sheet of paper as taught by Tsuji since this allows the user to draw or write on the writable medium for inputting handwritten characters or diagrams to a computer or a printer such that both an electronic copy and a hardcopy is available as a record to the user at the same time.

9. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Omura in view of Brown et al (US. PAT. NO. 4,430,526 hereinafter Brown).

Omura does not disclose the stylus includes an erasing mode image target near an erasing end of the stylus. However, Figs. 2 and 3 of Brown teaches a stylus (30) has a writing mode near writing end of a stylus (32), an erasing mode near an erasing end of the stylus (31). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the stylus of Omura to have an erasing mode as taught by Brown so as to provide pointing device which is capable of performing writing and erasing operation.

10. Claims 5, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura and Ogawa as applied to claims 1 and 20 above, and further in view of Brown.

Omura as modified by Ogawa does not disclose the stylus includes an erasing mode image target near an erasing end of the stylus. However, Figs. 2 and 3 of Brown teaches a stylus (30) has a writing mode near writing end of a stylus (32), an erasing mode near an erasing end of the stylus (31). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the stylus of Omura as modified by Ogawa to have an erasing mode as taught by Brown so as to provide pointing device which is capable of performing writing and erasing operation.

11. Claims 7 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura and Ogawa as applied to claims 1 and 20 above, and further in view of Inabata ((US. PAT. NO. 4,553,845,245,1752).

Omura as modified by Ogawa does not disclose using one optical imaging array to generate the image of the stylus tip from the first and second directions. However, Fig. 1 of Inabata teaches using one optical imaging device (CCD 7) to generate images of from the first and second directions (col. 1, lines 37-49). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Omura to use one optical imaging CCD as taught by Inabata so as to provide a low cost optical imaging device.

12. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Omura and Ogawa as applied to claim 1 above, and further in view of McDermott et al (US. PAT. NO. 5,635,683 hereinafter McDermott).

Omura teaches a communication port connected between the controller and a digital computing device (5). Omura as modified by Ogawa does not explicitly disclose the communication port is one of a wired port or a wireless port. However, McDermott teaches a controller (processor 18 in Fig. 1) connected to a digital computing device (host computer 16) via a wire or wireless link (e.g. col. 9, lines 48-51). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Omura as modified by Ogawa to use a wire or wireless communication link for connecting the controller and the computing device so as to readily transmit information from the controller to the computing device.

13. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Omura and Ogawa as applied to claim 1 above, and further in view of Yoshida et al (US. PAT. NO. 5,401,917 hereinafter Yoshida).

Omura as modified by Ogawa does not disclose a stylus holder formed within the housing and receives the stylus for stylus storage. However, Fig. 1 of Yoshida teaches a housing of pen input device having a stylus holder (3) formed within the housing and receives the stylus (5) for stylus storage. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Omura as modified by Ogawa to have a stylus holder as taught by Yoshida so as to allow stylus to be easily inserted and extracted thereto the therefrom and the stylus being held in a stable manner when inserted inside (col. 1, lines 13-15 of Yoshida).

14. Claims 14, 24, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura and Ogawa, in view of Badyal et al (US. PAT. NO. 6,151,015 hereinafter Badyal).

Omura as modified by Ogawa teaches a light source positioned near the telemetric imager. Furthermore, Ogawa teaches a first set of images of the stylus tip from the first direction and the second direction are generated with the light source on, and wherein a second set of images of the stylus tip from the first direction and the second direction are generated with the light source off. Ogawa also teaches using the first set of images and the second set of image to determine the stylus position (col. 11, lines 11-35).

Omura as modified by Ogawa does not disclose comparing the first set of images and the second set of images to determine the stylus position. However, Badyal teaches a computer pointing device comprising optical sensor for capturing images, the newly captured image is compared with previously captured image to determine the stylus position (col. 4, lines 14-20). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Omura as modified by Ogawa to have a comparator as taught by Badyal to ascertain the direction and amount of movement.

15. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Segen (US5,484,966) in view of Griffin (US 4,553,842).

Fig. 1 of Segen discloses a system for determining a stylus position of a stylus (108), the system comprising: a single telemetric imager (110) having a single optical imaging array; a controller (processor) electrically coupled to the telemetric image; wherein the controller determines the stylus position based on a generated image of the stylus tip from a first direction and a generated image of the stylus tip from a second direction when the stylus tip is in a stylus entry region (col. 5, lines 22-35).

Segen does not disclose a light source positioned near the telemetric imager. However, Griffin teaches a two dimensional optical position indicating device having a light source (30 in Figs. 2, 4, 5), the light source is positioned near the telemetric imager (detector 42) to illuminate the stylus tip. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Segen to have a light source positioned near the

telemetric imager as taught by Griffin so as to provide an optical position locating device of simple low cost, easily maintained rugged construction (col. 2, lines 60-62 of Griffin).

Response to Arguments

16. Applicant's arguments with respect to claims 1-40 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Regina Liang
Primary Examiner
Art Unit 2674

10/24/06